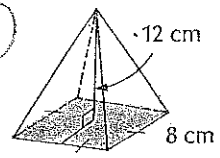
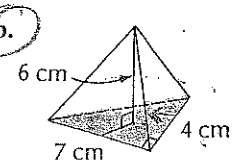
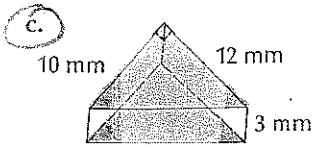
GMF 10

7-6 Volumes of Prisms and Pyramids 205

B 2. Find the volume of each solid. A calculator may be used.

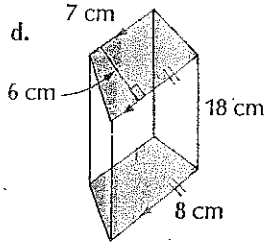
a. 

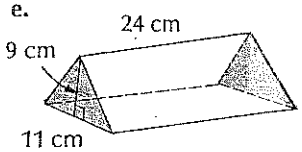
b. 

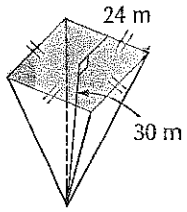
c. 

Prism V = Base x h

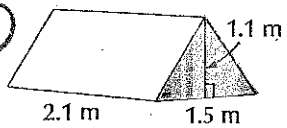
Pyramid V = ⅓ Base x h

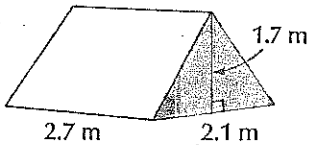
d. 

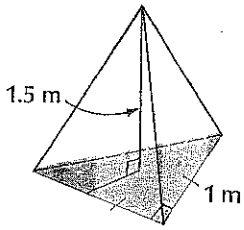
e. 

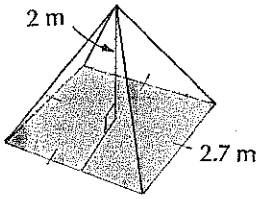
f. 

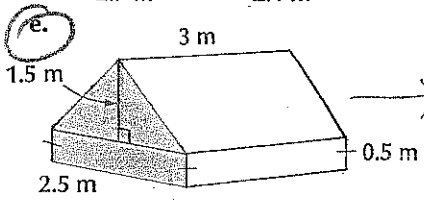
3. How much space is in the tent?

a. 

b. 

c. 

d. 

e. 

→ do in 2 parts

* Pyramid go to 1 point.

7-7 Volumes of Cylinders and Cones 206

Cone ⇒ $V = \frac{\pi r^2 h}{3}$ Cylinder ⇒ $V = \pi r^2 h$

EXERCISES

A 1. Find the volume of the right circular cylinder.

a. $r = 3$ cm, $h = 2$ cm b. $r = 6$ m, $h = 8$ m

c. $d = 12$ cm, $h = 3.5$ cm d. $d = 0.15$ m, $h = 10$ cm

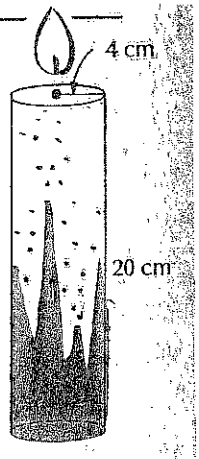
2. Find the volume of the right circular cone.

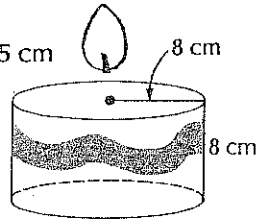
a. $r = 12$ cm, $h = 8$ cm b. $r = 7$ m, $h = 5$ m

c. $d = 6$ cm, $h = 3$ cm d. $d = 0.12$ m, $h = 5$ cm

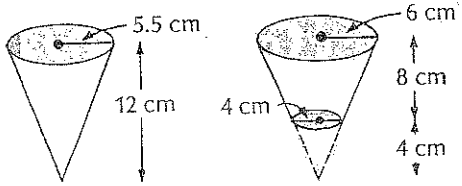
B 3. a. Which candle do you think has the greater volume of wax?

b. Find the volume of both to check your answer to part a.





11. Which has the greater volume?



Capacity (1 cm³ = 1 mL)

Answers:

7-6 p. 205.

2a) 256 cm³ b) 28 cm³ c) 180 mm³

3. a) 1.73 m³ e) 9.38 m³

7-7 p. 206

2 a) 1205.8 cm³ c) 28.3 cm³
1205.8 mL 28.3 mL

3 a) Short = 1607.7 cm³ Tall = 1004.8 cm³

11. 1st one = 380 cm³
and one = 435.5 cm³

7-8 Volume, Capacity, and Mass

Recall that **volume**, the amount of space an object occupies, is measured in cubic metres or cubic centimetres.

Capacity, the amount a hollow object will hold, is measured in litres or millilitres.

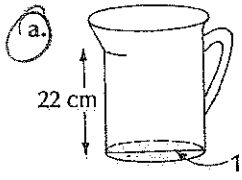
$1\ cm^3 = 1\ mL \qquad 1000\ cm^3 = 1\ L$

EXERCISES

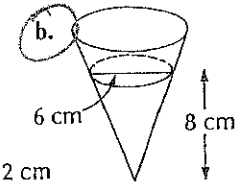
→ Final Answer in Litres

A 1. Find the capacity of the container if filled to the indicated mark.

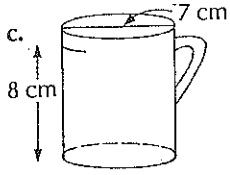
a.



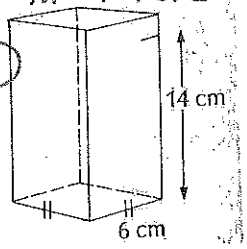
b.



c.



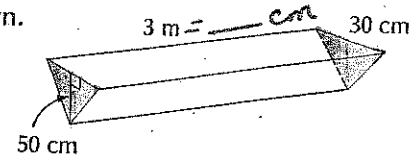
d.



7. A water trough has the interior dimensions shown.

a. Find its capacity.

b. ~~What mass of water will it hold at 4°C?~~



7-9 The Sphere 210

EXERCISES $V = \frac{4}{3}\pi r^3$

A 1. Find the volume of the sphere with the given measure.

a. $r = 8$ mm b. $r = 14$ cm c. $d = 10$ m d. $d = 3.6$ cm

Answers

7-8, p. 208

1. a) 2.5 L b) 0.0754 L d) 0.504 L

7. 225 L

7-9 p. 210

1 a) 2143.6 mm^3 c) 523.3 m^3